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EXAMINER				
JACKSON, ERNEST ADEYEMI				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/577,344

Applicant(s)

FUKAMACHI ET AL.

Examiner

ERNEST A. JACKSON

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-15, 17-26 and 28 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,3-15, 17-26 and 28 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/31/06, 11/22/06 and 2/23/07.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Status of Claims

1. This action is in reply to the application filed on April 28, 2006, which has a PCT filed on October 28, 2004 and a foreign application priority date of October 31, 2003.
2. The preliminary amendment to the claims filed on July 03, 2006 has been entered.
3. **Claims 2, 16 and 27** have been canceled and **Claims 1, 3-6, 9-15, 17-20 and 23-26** have been amended, as per preliminary amendment
4. **Claims 1, 3-15, 17-26 and 28** are pending, and have been examined.

Information Disclosure Statement

5. The Information Disclosure Statements filed on July 31, 2006, November 22, 2006 and February 23, 2007 have been considered and the initialed copies of Form 1449 are enclosed herewith.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. **Claims 15 and 17-26** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

A claimed process is eligible for patent protection under 35 U.S.C. § 101 if: "(1) It is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing. See Benson, 409 U.S. at 70 ('Transformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include particular machines.');" Diehr, 450 U.S. at 192 (holding that use of mathematical formula in process 'transforming or reducing an article

to a different state or thing' constitutes patent-eligible subject matter); see also Flook, 437 U.S. at 589 n.9 ('An argument can be made [that the Supreme] Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a 'different state or thing' '); Cochrane v. Deener, 94 U.S. 780, 788 (1876) ('A process is...an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.'). A claimed process involving a fundamental principle that uses a particular machine or apparatus would not pre-empt uses of the principle that do not also use the specified machine or apparatus in the manner claimed. And a claimed process that transforms a particular article to a specified different state or thing by applying a fundamental principle would not pre-empt the use of the principle to transform any other article, to transform the same article but in a manner not covered by the claim, or to do anything other than transform the specified article." (*In re Bilski*, 88 USPQ2d 1385, 1391 (Fed. Cir. 2008))

Also noted in *Bilski* is the statement, "Process claim that recites fundamental principle, and that otherwise fails 'machine-or-transformation' test for whether such claim is drawn to patentable subject matter under 35 U.S.C. §101, is not rendered patent eligible by mere field-of-use limitations; another corollary to machine-or-transformation test is that recitation of specific machine or particular transformation of specific article does not transform unpatentable principle into patentable process if recited machine or transformation constitutes mere 'insignificant post-solution activity.'" (*In re Bilski*, 88 USPQ2d 1385, 1385 (Fed. Cir. 2008)) Examples of insignificant post-solution activity include data gathering and outputting. Furthermore, the machine or transformation must impose meaningful limits on the scope of the method claims in order to pass the machine-or-transformation test.

It is also noted that the mere recitation of a machine in the preamble in a manner such that the machine fails to patentably limit the scope of the claim does not make the claim statutory under 35 U.S.C. § 101, as seen in the Board of Patent Appeals Informative Opinion *Ex parte Langemyr et al.* (Appeal 2008-1495).

Claim 15, as recited, is directed to a method of allocating a worker in charge to repair an appliance comprising receiving, determining, creating and transmitting information without specifying a machine or apparatus to carry out any of these functions. As recited, these functions could be done by software per se, and are neither tied to a particular machine nor transform a particular article into a different state or thing, thereby failing the machine or transformation test. Therefore, claims 15 and 17- 26 are non-statutory under § 101. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 7. Claims 1, 3-14, 15, 17-26 and 28** are rejected under 35 U.S.C. 103 (a) as being unpatentable over Harrison et al. (USPP 2005/0094772 A1) in view of Sisley et al. (USP 5,943,652 B1).

Claim 1:

As per claim 1, Harrison discloses a system and method for computer aided technicians dispatch and communication with support for the limitations including:

- an input that inputs a work request containing a work content, comprising at least a content of an appliance repairing work and a work place (Subscribers typically communicate service requests to service representative 102. These service

requests may include reception difficulty, disconnection requests, addition or deletion of channels, or any other service request. – See ¶ [0026] of Harrison);

- an article determiner that determines at least one article needed for the work request (Referring again to FIG. 1, in a preferred embodiment, once the service request information is entered into input terminal 100, a work order is created. A work order is a compilation of all information for use either by team of technicians 110, dispatcher 114, or service representative 112. – See ¶ [0028] of Harrison);
- a work information creator that creates work information comprising the work content and the article for every working day for each worker in charge (The Admin. Mode 406 allows the user to run administrative functions, such as functions dealing with technicians 410, work orders 412, quota 414, which are defined as the effort needed to complete a work product or task on a work order, or scheduled areas 416, which are defined as the boundaries that subdivide a service area. Each Admin. Mode 406 area will be discussed in detail below. – See ¶ [0032] of Harrison);
- a map information creator that creates map information comprising position information of the work place and a visit order of the work place for every working day in association with the work information (Referring now to FIG. 3, which illustrates an example of a display means 301 comprised of a digitized map in accordance with one embodiment of the present invention, a representation of a service area is shown in map window 300. – See ¶ [0029] of Harrison);
- a transmitter that transmits the work information and the map information to each worker in charge (In a preferred embodiment, technician location may be tracked using a global positioning system sensor, which transmits the technician location to the server directly. Other means of transmitting location or data to the server may also be used. – See ¶ [0026] of Harrison); and

Harrison does not expressly teach an embodiment with the limitation:

- a worker in charge determiner that determines at least one worker in charge who satisfies a predetermined condition based on the work content for the received work request (Thus, a complete assignment of a service call involves both an association of the call with a technician, as determined by assigner module 22, and a scheduling of the call at a particular time, as determined by the scheduler module 24. – See Col. 7, lines 17-21 of Sisley).

However, Sisley teaches an assigner and scheduler modules as the worker in charge determiner, as cited. It would have been obvious to one of ordinary skill in the art to include in the system of Harrison the ability to incorporate a worker in charge determiner as taught by Sisley. Since the claimed invention is merely a combination of old elements and, in the combination, each element merely would have performed the same function as it did separately, one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claim 3:

Harrison in view of Sisley teaches the worker in charge command system according to claim 1 as described above. Harrison further teaches the limitation wherein:

- the predetermined condition comprises a skill of the worker in charge required for completing the work (The edit Skills information 508 allows the user to update and add new skills to a particular technician's record. – See ¶ [0035] of Harrison).

Claim 4:

Harrison in view of Sisley teaches the worker in charge command system according to claim 1 as described above. Harrison further teaches the limitations comprising:

- a divider that divides a service area into a plurality of blocks, pre-assigns the worker in charge to each block and manages the worker in charge (The Admin. Mode 406 also allows a user to define Schedule Areas 412. As discussed earlier, schedule areas are defined as the boundaries that subdivide a service area.

These subdivisions may be defined by a franchise tax area, zip codes, geographical codes, or any other means for dividing a service area. The user may define the schedule areas based on these methods. New schedule areas may be added as appropriate. – See ¶ [0037] of Harrison);

- wherein the worker in charge determiner searches for a worker in charge who satisfies the predetermined condition in a block adjacent to a work block when the worker in charge who satisfies the predetermined condition cannot be determined in the work block (In step 706, a determination of the technicians that are qualified to complete the pending work orders is made. This may be done based on a skill rating that each technician may be assigned, and may include comparing the required time for the work order to a technician's available time. This list is temporarily associated with the work order record. Next, in step 708, the number of qualified technicians is counted and this number is also temporarily associated with the record. At the completion of step 708, each work order record should have a corresponding list of qualified technicians and number of qualified technicians associated with it. – See ¶ [0046] of Harrison).

Claim 5:

Harrison in view of Sisley teaches the worker in charge command system according to claim 4 as described above. Harrison does not expressly teach the limitation wherein:

- a geographical range of the block and a number of workers in charge pre-assigned to each block are varied after a predetermined period (In response to an SMS or field event received at queue 20, the A/S system 12 conducts a modified "best-first" search that combines optimization, artificial intelligence, and constraint-processing techniques to arrive at near-optimal assignment and scheduling recommendations. When a change to the technician or call set is received, the A/S system 12 executes a search that evaluates potential changes to the existing assignment set in an attempt to find a better distribution of calls among the technicians, as well as a better scheduling of calls assigned to

individual technicians. The A/S system 12 generates assignment and scheduling recommendations for all new calls as they are received, and immediately readjusts the assignment, resulting in global optimization. – See Col. 7, line 59 – Col. 8, line 5 of Sisley).

On the other hand, Sisley teaches a system for assigning and scheduling resource requests to providers using a modified search technique to arrive at an optimal assignment and scheduling solutions. It would have been obvious to one of ordinary skill in the art to include in the system of Harrison the ability to optimize the search technique within a geographical area as taught by Sisley. Since the claimed invention is merely a combination of old elements and, in the combination, each element merely would have performed the same function as it did separately, one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claims 6, 7 and 8:

Harrison in view of Sisley teaches the worker in charge command system according to claim 5 as described above. Harrison further teaches the limitations, comprising:

- wherein at least one of the geographical ranges of the block and the number of workers in charge assigned to the block is determined based on the counted data (Referring to FIG. 8, which illustrates the assignment process, in step 801, input is received. In step 802, the process counts the number of work orders having n qualified technicians available and then assigns this a number to a variable, i. – See ¶ [0049] of Harrison).
- wherein the geographical range is determined based on a zip code (These subdivisions may be defined by a franchise tax area, zip codes, geographical codes, or any other means for dividing a service area. – See ¶ [0037] of Harrison).

Harrison does not expressly teach the limitation:

- a memory that stores data in which the number of past works in each block is counted every predetermined period (The A/S system 12 further includes three main data structures 26, 28, 30, and a clock 32 accessed by assigner module 22. The assignment set data structure 26 stores a representation of the existing assignment set that defines an existing assignment of pending service calls among the service technicians. – See Col. 7, lines 22-27 of Sisley),

However, Sisley teaches stored data as cited. Also, neither Harrison nor Sisley expressly teaches the limitation:

- wherein the predetermined period is one month.

However, Sisley teaches predetermined time (the A/S system 12 may search for better solutions in response to either a request for reevaluation by a system user, the passage of a predetermined amount of time, or simply the availability of idle processing time. – See Col. 8, lines 22-25 of Sisley). The specific period of one month, in this case, may be considered field of use in this application. It would have been obvious to one of ordinary skill in the art to include in the system of Harrison the ability to store data in memory, as taught in Sisley; and to set the predetermined period as one month. Since the claimed invention is merely a combination of old elements and, in the combination, each element merely would have performed the same function as it did separately, one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claims 9-11:

Harrison in view of Sisley teaches the worker in charge command system according to claim 1 as described above. Harrison further teaches the limitations comprising:

- a works manger that manages a number of works handled by each worker in charge every day (Next, in step 710, the process determines that W.sub.6 does not have any qualified technicians. This would cause a message to be sent to the user in step 712. Since there are unassigned work orders (step 714), and there

are qualified technicians for the unassigned work orders (step 716), the process looks at work orders with $n=1$ qualified technicians (step 724). Thus, the assignment process begins (step 726). Referring to FIG. 8 and Table 1, there are two work orders that have n equal to 1, W.sub.1 and W.sub.3. Thus, in step 802 i is equal to 2. The result of step 804 would be W.sub.1 followed by W.sub.3, with W.sub.1 assigned $i=2$ and W.sub.3 assigned $i=1$. – See ¶ [0052] of Harrison);

- a probability manager that manages a probability of completing the work with the at least one article with respect to each article (Since there are unassigned work orders (step 714), and there are qualified technicians for the unassigned work orders (step 716), the process looks at work orders with $n=1$ qualified technicians (step 724). Thus, the assignment process begins (step 726). Referring to FIG. 8 and Table 1, there are two work orders that have n equal to 1, W.sub.1 and W.sub.3. Thus, in step 802 i is equal to 2. The result of step 804 would be W.sub.1 followed by W.sub.3, with W.sub.1 assigned $i=2$ and W.sub.3 assigned $i=1$. – See ¶ [0052] of Harrison),
- wherein the work request contains a desired date and time, and the map information creator determines the visit order based on a location of the work place and at least one of the desired date and time (In step 826, a distance comparison for work order i is made. The comparison is made between work order i 's location and the qualified technicians' assigned start and end points, as well as to other previously assigned work orders. The technician having the minimum distance in any of these comparisons will be assigned the work order. – See ¶ [0050] of Harrison).

Harrison does not expressly teach the limitations:

- wherein the article determiner selects the at least one article such that a total probability of completing the work is at least a predetermined value (The scheduler module 24 matches calls with estimated durations and travel times based on call attributes passed by the assigner module 22. The scheduler

module 24 assigns a start time to the next call in the sequence based on the completion time of the preceding call and an estimated travel time between the preceding call and the next call. The completion time of the next call is then based on its estimated duration relative to its start time. – See Col. 26, lines 55-63 of Sisley).

- wherein the worker in charge determiner provides an upper limit of the number of works handled by each worker in charge during a day (Thus, the scheduler module 24 accesses the calendar data structure 32 to determine which time segments are available work days, and to determine scheduling boundaries between consecutive work days to avoid carrying calls over to the next day. – See Col. 7, lines 52-57 of Sisley).

However, Sisley teaches the limitations, as cited. It would have been obvious to one of ordinary skill in the art to include in the system of Harrison the ability to select an article such that the probability of completing the work has a predetermined value, and an upper limit or boundary of the number of works handled by each worker during a day as taught by Sisley. Since the claimed invention is merely a combination of old elements and, in the combination, each element merely would have performed the same function as it did separately, one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claim 12:

Harrison in view of Sisley teaches the worker in charge command system according to claim 1 as described above. Harrison further teaches the limitations, comprising a mobile terminal, wherein the mobile terminal includes:

- a receiver that receives the work information and the map information transmitted from the transmitter (In a preferred embodiment, technician location may be tracked using a global positioning system sensor, which transmits the technician location to the server directly. – See ¶ [0026] of Harrison); and

- a transmitter that transmits predetermined information when the worker in charge completes the work (In a preferred embodiment, technician location may be tracked using a global positioning system sensor, which transmits the technician location to the server directly. – See ¶ [0026] of Harrison).

Claims 13 and 14:

Harrison in view of Sisley teaches the worker in charge command system according to claim 12 as described above. Harrison further teaches the limitations wherein:

- the mobile terminal is a mobile phone (The Add Tech option 502 allows the user to enter information about a technician, which may include the technician's name, phone number, start date, and termination date. Other information may be added if required. – See ¶ [0033] of Harrison).
- the central processing unit further includes:
 - a memory that stores the position information of the work place (The Start/End Location 518 information may be entered as an address, as a longitude/latitude position, or any other positioning system. – See ¶ [0034] of Harrison);
 - a receiver that receives the information transmitted from the worker in charge through the mobile terminal when the work is completed, together with position information of a place from which the information is transmitted (In a preferred embodiment, technician location may be tracked using a global positioning system sensor, which transmits the technician location to the server directly. Other means of transmitting location or data to the server may also be used. – See ¶ [0026] of Harrison); and
 - an updater that updates the position information stored in the memory with the received position information (From the edit shift information 510

the user may enter and update information dealing with the technician's Scheduled Hours 514, the Scheduled Areas 516 that the technician may be assigned jobs from, and the daily Start/End Location 518 for a technician. The Start/End Location 518 information may be entered as an address, as a longitude/latitude position, or any other positioning system.
– See ¶ [0034] of Harrison).

Claim 15:

As per claim 15, Harrison in view of Sisley discloses a worker in charge command method of allocating a worker in charge who repairs an appliance.

Claim 15 further recites limitations substantially similar to those addressed by the rejections of claim 1 above; therefore, the same rejections apply.

Claims 17-26:

Claims 17-26 recite limitations substantially similar to those addressed by the rejections of Claims 3-11 and 14 above, respectively; therefore, the same rejections apply.

Claim 28:

As per claim 28, Harrison in view of Sisley discloses a computer readable medium that stores a program for allocating a worker in charge who repairs an appliance.

Claim 28 further recites limitations substantially similar to those addressed by the rejections of Claim 1 above; therefore, the same rejections apply.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: 1) USPP 2003/0083060 A1 – System for monitoring a service vehicle – by Robert J. Menendez, and 2) USPP 2006/0148492 A1 – by Inaba et al. 2) NPL: Optimizing periodic maintenance operations for Schindler Elevator Corporation – Fred Blakeley. These references address the state of the prior art elements disclosed in this application for a patent.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERNEST A. JACKSON whose telephone number is (571)270-7984. The examiner can normally be reached on Monday - Thursday, 7:30 a.m. - 6:00 p.m. .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on 571-272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. A. J./
Examiner, Art Unit 3623

/Beth V. Boswell/
Supervisory Patent Examiner, Art Unit 3623